

Draft Water Shortage Contingency Plan

April 2021



City of
Brawley

DRAFT



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Executive Summary

In accordance with the 2020 UWMP Act, urban water suppliers are required to assess their water supply reliability that compares total projected water use with the expected water supply over the next twenty years in five-year increments. To that end, the City of Brawley has prepared this Water Shortage Contingency Plan (WSCP) to document the reliability assessment and protocols during supply shortage events for the City's service area. The City's goal is to deliver a reliable and high-quality water supply for their customers, even during dry periods.

This WSCP is a detailed proposal for how the City of Brawley (City) intends to act in the event of a statewide water shortage. Reliable, high quality water service is critical to an economically and environmentally vibrant community. This plan documents the City's management practices and builds on the City's preparedness for droughts and other impacts on water supplies. The WSCP identifies pre-planned guidance for managing and mitigating a water supply shortage. The WSCP assesses current and future water supply availability and provides steps to respond to actual conditions, allowing for the efficient and effective management of any shortage with predictability and accountability.

Provisions with this WSCP are required by California Water Code (Water Code), including five specific response actions that align with six standard water shortage levels based on the City's water supply conditions and shortages resulting from catastrophic supply interruptions. The WSCP also contains the City's procedures for conducting the newly mandated annual water supply and demand assessment, which is the written decision-making process for determining supply reliability each year, along with the data and methods used to evaluate reliability.

This WSCP accompanies the City's 2020 Urban Water Management Plan (UWMP) and consists of the following elements:

1. Water Supply Reliability Analysis
2. Annual Water Supply and Demand Assessment Procedures
3. Six Standard Water Shortage Stages
4. Shortage Response Actions
5. Communication Protocols
6. Compliance and Enforcement
7. Legal Authorities
8. Financial Consequences of WSCP
9. Monitoring and Reporting
10. WSCP Refinement Procedures
11. Special Water Feature Distinction
12. Plan Adoption, Submittal, and Availability

The WSCP is a stand-alone document created separately from the UWMP and can be amended, as needed, without amending the UWMP. This 2020 WSCP is included in the City's 2020 UWMP submitted to the California Department of Water Resources (DWR) by July 1, 2021.



Chapter 1 – Water Supply Reliability Analysis

As the agency responsible for providing a reliable water supply and protecting public health, The City of Brawley (City) is committed to managing available water supply during normal conditions as well as during water shortage conditions such as droughts or water system emergencies. This section summarizes (a) the findings related to water system reliability conducted pursuant to Water Code Section 10635, and (b) key protocols to be undertaken by the City in the event of a water shortage defined by the State of the Interior or catastrophic event. Specifically, this section summarizes and builds on the City's supply analysis in the UWMP Chapter 6 and its water reliability findings in UWMP Chapter 7, recognizing that the WSCP can be a stand-alone document that will be submitted with the 2020 UWMP.

As determined through the analysis performed in the 2020 UWMP, there is no foreseeable water shortage in the City of Brawley for the next 20 years. The City of Brawley uses surface water supplied by the Imperial Irrigation District (IID) from the Colorado River that can supply the City with sufficient water to meet all projected demands. Due to IID's significant supply and the City's arrangement with IID, the City is not affected by climatic related supply shortages; the City currently has no restriction on the amount that can be supplied from IID. Moreover, the City itself maintains enough daily storage that is significantly higher than the current projected demands through 2045.

California experienced a prolonged drought from 1987 through 1992 and 2007 to 2009 and in 2010 below normal runoff. The Governor declared a statewide drought and proclaimed a state of emergency in nine counties on June 4, 2008 and a statewide emergency due to the drought on February 27, 2009. The droughts, however, did not affect the City's water supply.

Nonetheless, the City will still implement this WSCP detailing water conservation measures to ease the burden on IID and the Colorado River during water shortage events. Additionally, the City is still susceptible to catastrophic events such as earthquakes and this WSCP will be used to document the procedures and protocols to be taken by the City if such an event were to occur.

1.1 City Service Reliability

As discussed above, the City purchases Colorado River water from IID via the IID-owned and operated All-American Canal system which is ultimately supplied to Brawley's WTP via the Mansfield Canal off the Central Main Canal. The capacity of the Mansfield Canal is 30 CFS (19 MGD). Raw water is treated at the City's 15 MGD capacity WTP and pumped and distributed via its pump station located at the WTP. The City's raw water storage is significant and is constantly being fed from IID's canals.

Within the City's service area, demand is significantly lower than the City's day to day storage volumes and production capacity. As such supply volumes have been determined to be reliable and are not a concern to the City and reliability risks are focused on potential emergency disruptions to the City's distribution system.

The main factors that can cause water supply shortages for the City are water pollution, earthquakes



and long-term energy outages at the treatment and pumping facilities. Since IID is the only supplier of water to the City, there is no alternative source water. The water quality of the agricultural drains, New River and Alamo River are high in total dissolved solids and other contaminants and are as such unusable as a potable or irrigation water source.

If either the All-American Canal or Central Main Canal were shut down, water could not be delivered to the treatment plant. The shutdown could be for scheduled maintenance or as a result of an emergency, such as an earthquake. In October 1979, an earthquake caused levee and slope failures along the All-American Canal east of El Centro, severely limiting water flow. This is the only time during the last 45 years that the All-American Canal was shut down.

Outside of the City's production is the amount provided by IID from whom the City receives all its raw water. As the City of Brawley receives its water supply from IID, the following section's emphasis is in the infrastructure systems that convey water to the City of Brawley.

1.2 IID Service Reliability

Although it has been determined that IID's water supply is significant compared to the needs of the City, this reliability assessment focuses on IID's supply to the City to document and identify whether there are any potential disruptions to the City in the near future.

Every supplier's water supply source has its own reliability characteristics. In any given year, the variability in weather patterns around the state may affect the availability of supplies to its service area. The City of Brawley, like the Imperial Valley are serviced by the Imperial Irrigation District (IID) are both susceptible to seasonal and climatic changes such as seasons with dryer conditions and periods with wetter conditions.

However, under the Law of the River, IID retains a legal right to annual net consumptive use of 3.1 MAF from the Colorado River. Under the terms of various agreements and laws, the annual Colorado River flows would have to be reduced to less than 5.0 MAF (one-third of historic average) before the water supply to IID would be impacted. Even in drought years with Lower Colorado River flows less than 7.5 MAF, the existing laws and agreements provide security that the IID should receive its Present Perfected Rights of 2.6 MAF and its overall water allocation remains at 3.1 MAF.

1.3 IID Water Rights

IID's surface water supply is entirely from the Colorado River, except for a small volume from Lower Colorado Water Supply Project (LCWSP). Rainfall average is less than three inches per year and does not contribute to IID's water supply, although at times it may reduce agricultural water demand. A summary of IID's annual entitlement and future consumptive use projections are provided in **Figure 1** to illustrate the region's surplus availability up to 2077.



IID Quantification and Transfers, Volumes in KAF at Imperial Dam ¹										
Col 1	2	3	4	5	6	7	8	9	10	11
Year	IID Priority 3(a)								IID Net [Available for] Consumptive Use (Col 2 - 10)	
	IID 3(a) Quantified Amount	IID Reductions								
		1988 MWD Transfer ²	SDCWA Transfer	AAC Lining	Salton Sea Mitigation SDCWA Transfer ³	Intra- Priority 3 CVWD Transfer	MWD Transfer w\ Salton Sea Restoration ⁴	Misc. PPRs	IID Total Reduction (Σ Cols 3-9) ⁵	
2003	3,100	105.1	10.0	0.0	0.0	0.0	0.0	11.5	126.6	2978.2
2004	3,100	101.9	20.0	0.0	15.0	0.0	0.0	11.5	148.4	2743.9
2005	3,100	101.9	30.0	0.0	15.0	0.0	0.0	11.5	158.4	2756.8
2006	3,100	101.2	40.0	0.0	20.0	0.0	0.0	11.5	172.7	2909.7
2007	3,100	105.0	50.0	0.0	25.0	0.0	0.0	11.5	191.5	2872.8
2008	3,100	105.0	50.0	8.9	26.0	4.0	0.0	11.5	205.4	2825.1
2009	3,100	105.0	60.0	65.5	30.1	8.0	0.0	11.5	280.1	2566.7
2010	3,100	105.0	70.0	67.7	33.8	12.0	0.0	11.5	294.8	2540.5
2011	3,100	103.9	63.3	67.7	0.0	16.0	0.0	11.5	262.4	2915.8
2012	3,100	104.1	106.7	67.7	15.2	21.0	0.0	11.5	326.2	2,903.2
2013	3,100	105.0	100.0	67.7	71.4	26.0	0.0	11.5	381.6	2,554.9
2014	3,100	104.1	100.0	67.7	89.2	31.0	0.0	11.5	403.5	2,533.4
2015	3,100	107.82	100.0	67.7	153.3	36.0	0.0	11.5	476.3	2,480.9
2016	3,100	105.0	100.0	67.7	130.8	41.0	0.0	11.5	456.0	2,504.3
2017	3,100	105.0	100.0	67.7	105.3	45.0	0.0	9.9	434.5	2,548.2
2018	3,100	105	130	67.7	0.1	63	0.0	11.5	377.3	2,722.8
2019 ⁶	3,100	105	160	67.7	46.55	68	0.0	11.5	458.75	2,687.8
2020	3,100	105	193	67.7	0.0	73	0.0	11.5	450.2	2,649.8
2021	3,100	105	205	67.7	0	78	0.0	11.5	467.2	2,632.8
2022	3,100	105	203	67.7	0	83	0.0	11.5	470.2	2,629.8
2023	3,100	105	200	67.7	0	88	0.0	11.5	472.2	2,627.8
2024	3,100	105	200	67.7	0	93	0.0	11.5	477.2	2,622.8
2025	3,100	105	200	67.7	0	98	0.0	11.5	482.2	2,617.8
2026	3,100	105	200	67.7	0	103	0.0	11.5	487.2	2,612.8
2027	3,100	105	200	67.7	0	103	0.0	11.5	487.2	2,612.8
2028	3,100	105	200	67.7	0	103	0.0	11.5	487.2	2,612.8
2029-37	3,100	105	200	67.7	0	103	0.0	11.5	487.2	2,612.8
2038-47 ⁷	3,100	105	200	67.7	0	103	0.0	11.5	487.2	2,612.8
2048-77 ⁸	3,100	105	200	67.7	0	50	0.0	11.5	434.2	2,665.8

Figure 1 – IID Annual Entitlement and Net Consumptive Use Schedule (KAF), 2003-2077

As observed above, IID’s annual consumptive use is capped at 3.1 million acre-feet (MAFY) of water, less its QSA/Transfer Agreement obligations per the Quantification Settlement Agreement (QSA). The QSA was enacted in 2003 as the nation’s largest agriculture-to-urban water conservation and transfer program between the Secretary of Interior, IID, Coachella Valley Water District (CVWD), the Metropolitan Water District of Southern California (MWD), San Diego County Water Authority (SDWA) and other affected parties.

From this entitlement amount, IID projects to retain 2,649.8 thousand acre-feet (KAF) and 2,665.8



KAF available surplus for use for years 2020 and 2077, respectively. Due to this balance availability, both long-term and short-term reliability is not a concern for the City.

1.4 Single Dry Year and Multiple Dry Years

An analysis of a normal, single dry, and multiple dry water years was performed by IID to determine that adequate water is available in various climate scenarios. When drought conditions exist within the IID water service area, as has been the case for the past decade or so, the water supply available to meet agricultural and non-agricultural water demands remains the same as normal year water supply because IID continues to rely solely on its entitlement for Colorado River water. Due to the priority of IID water rights and other agreements, drought conditions affecting Colorado River water supplies cause shortages for Arizona, Nevada and Mexico, before impacting California and IID. Accordingly, the Net Available for Consumptive Use volumes shown above represent the water supply at Imperial Dam available for diversion by IID in single-dry year and multiple-dry year scenarios.

1.5 IID Supply Shortage Measures

In the event that there is a water shortage in the Lower Colorado River Basin, the Imperial Irrigation District/San Diego County Water Authority water transfer agreement states that both agencies will share, on a pro-rata basis, any reductions in water to IID should a shortage declaration by the Secretary of the Interior for the Lower Colorado River Basin affect IID's water conservation and transfer programs. When the amount of water in usable storage in Lake Mead is less than 15 million acre-feet and the unregulated inflow into Lake Powell is forecasted to be less than 8.8 million acre-feet, the IID and the San Diego County Water Authority have agreed to meet and confer to discuss a supplemental water transfer agreement in anticipation of the shortage.

Should operating conditions on the Colorado River indicate IID may be impacted by reductions in water deliveries; IID will notify all of its water users by mail and will conduct an educational outreach program in conjunction with the local media and municipal water systems. The notice will request all water suppliers, and in particular residential, industrial, and commercial water users, to conserve water on a voluntary basis. Urban water suppliers will be responsible for notifying their customers and implementing their own voluntary water conservation measures and programs.

However, it is unlikely that IID's urban water supply would ever be affected, even under shortage or drought conditions on the Colorado River. Urban water use in the Imperial Unit makes up less than three percent of the total water delivered by IID. Under a worst-case water supply scenario, the IID would still meet the demands of urban water users. Due to the high priority of IID's water rights, Colorado River flows, and the storage facilities on the Colorado River it is highly unlikely that IID's water supply will be affected, even in dry years.

1.6 IID Supply Priorities

IID has established an Equitable Distribution Plan (EDP) and implementing regulations, together referred to as the Equitable Distribution Program, that are designed to provide for the distribution of water in any year when expected demand for water is likely to exceed expected supply. Under the Equitable Distribution Program, when a supply/demand imbalance is declared, IID apportions



the estimated supply among the various types of water users as follows:

- a) Municipal and Commercial Users – Municipal and Commercial water users will receive the first allocation, the base amount of 2006 usage plus current District wide average use per capita multiplied by the increase in population since 2006.
- b) Industrial Users – For existing contracts, estimated based on past use, not to exceed contracted amount and contract terms. For new contracts, estimated based on anticipated use, not to exceed contract amount and contract terms, taking into consideration the Interim Water Supply Policy dated 09/29/09.
- c) Feedlots and Dairies – Estimate based upon past use and consideration of future changes.
- d) Environmental Resources Water – Estimated based upon the amount reasonably necessary to achieve the purposes of IID's commitments, taking past use into account; and
- e) Agricultural Lands – Straight Line Apportionment. Subtract the estimated demand for categories a through d above from Available Water Supply, and then divide the remaining supply by the total number of Eligible Agricultural Acres. The amount of water apportioned to acreage that does not comply with Eligible Agricultural Acres will be placed in the District Water Exchange.

1.7 Supply and Demand Comparisons

The City does not currently have a contract with IID that limits the amount of water available to the City. Due to this, the limiting factor, if any, is what the City can supply which is determined by the current water treatment plant (WTP) capacity. The current capacity of the WTP is 15 Million Gallons per day (MGD) or 5,475 Million Gallons per year (46 acre-feet per day and 16,800 AFY). The WTP is also expandable to 30 MGD to accommodate future growth, if needed. This supply can be compared with the actual demand in 2020 which was 2,171 Million Gallons for the entire year. The Table below shows the demand projections for the next 20 years versus the available supply.

Total Water Use (Potable and Non-Potable)						
	2020	2025	2030	2035	2040	2045(opt)
<i>Total Water Demand</i> (MG per Year)	2,171	2,252	2,335	2,422	2,513	2,608
WTP Supply Available (MG per Year)	5,475	5,475	5,475	5,475	5,475	5,475
Net Difference Remaining	3,304	3,223	3,140	3,053	2,962	2,867
NOTES: Demand Projections are based on the 2020 UWMP.						

Figure 2 – Total Water Use Potable and Non-Potable)

As observed, the City of Brawley's supply far exceeds demands and thus the limiting factor would be IID's supply to the City. The City would be able to maintain current demands even with a 50 percent reduction in supply. With that in mind, the available supplies and water demand for the City's service area was analyzed to assess the region's ability to satisfy demands during four



scenarios: a normal water year, a single-dry year, and two multiple-dry year periods in the 2020 UWMP. It has been determined that the water availability for the City of Brawley is no different during a normal, dry year, or multiple dry year scenario due to the significant amount of supply and the water receiving operations employed by the City Brawley with IID.

Similarly, per IID's most recent base Water Supply Assessment Document, the Water availability for IID in a normal year is no different from water availability during a single-dry and multiple-dry year scenarios. This is due to the small effect rainfall has on water availability in IID's arid environment along with IID's strong entitlements to the Colorado River water supply. Local rainfall has minor impacts on how much water is consumed (i.e., if rain falls on agricultural lands, those lands will not demand as much irrigation), but does not impact the definition of a normal year, a single-dry year or a multiple-dry year scenario. Furthermore, for the single dry and multiple dry water years assessment, IID's Equitable Distribution Plan (EDP) governs. The EDP was adopted in 2007, along with subsequent regulations, allowing the IID Board to make an annual determination as to Supply/Demand Imbalance (SDI) conditions. Future apportionment of municipal, industrial, geothermal, feedlots/dairies, and environmental resources were prescribed in the EDP. The EDP prescribes the amount of water that IID water users receive during periods of supply imbalance.

Demand for water in the Imperial Unit service area is divided into three basic categories: agricultural, municipal, and industrial. Presently IID delivers the vast majority of its annual flows to agricultural water users, and only a very small percentage to municipalities and industrial purposes. Per IID's 2016 Water Conservation Plan, around 95.5 percent of the delivered water was used for agricultural purposes on nearly 475,000 irrigated acres, making possible Imperial County's ranking as one of the top ten agricultural regions nationwide in 2014. The remaining 4.5 percent was delivered for municipal, commercial and industrial use, including rural homes and businesses, and some environmental and recreational uses.

In summary, in the event of a shortage from the Colorado River, supply for agriculture will be redirected and priority delivery will be to municipalities. Additionally, for normal growth projections in the coming years the projected raw water demand for agricultural use is projected to remain the same unless there is substantial permanent irrigated land retirement as a result of planned land use changes (conversion of farmland to urban use). Non-agricultural water demands are anticipated to increase over the planning period, consistent with population projections, but at substantially lower water demand levels per acre than the 2018 average of 4.7 AF/AC of water for agricultural irrigation. Moreover, as the City grows and develops on existing agricultural land, theoretically there will be more supply of water available. Agriculture requires more raw water per acre than developed land.

Overall, the City's water demand is significantly lower than their total water allotment from IID and thus no predictable water shortage issues are foreseen at this time for the next 20 years. Thus, the City is not affected by climatic related supply shortages. California experienced a prolonged drought from 1987 through 1992 and 2007 to 2009 and in 2010 below normal runoff. The Governor declared a statewide drought and proclaimed a state of emergency in nine counties on June 4, 2008 and a statewide emergency due to the drought on February 27, 2009. The droughts, however, did not affect the City's water supply.



Chapter 2 – Annual Water Supply and Demand Assessment Procedures

Beginning by July 1, 2022, the City is required to prepare and submit an annual water supply and demand assessment (referred “Annual Assessment”) and submit an Annual Water Shortage Assessment Report to the Department of Water Resources (DWR) as set forth by updates to the CWC. As required by Water Code Section 10623(2a), the WSCP shall include its specific procedures that describe the annual steps and timing to complete the Annual Assessment, such that it can be consistently followed year-after-year, regardless of changing staff undertaking the step.

The Annual Assessment will be due by July 1 of every year, as required by Water Code Section 10632.1. However, due to the City of Brawley’s system for receiving water from IID on a daily as needed basis, a water supply and demand assessment is not applicable. However, the City of Brawley will continue to monitor and track usage monthly which can be incorporated to the Annual Assessment, although shortage will not be a concern.

Furthermore, DWR is developing a stand-alone guidance document that will recommend practical procedures and analytical methods that may be used at the City’s discretion to update this WSCP to comply with the Annual Assessment requirement effectively and efficiently when available.

2.2.2.1 Water Supply Assessment

The City does not forecast anticipated demand as the City does not have a fixed or finite supply amount of concern. The City coordinates water supply from IID daily depending on the usage experienced in real time. As such there is currently no need for projections or management of finite water supplies.

As discussed above, the City purchases Colorado River water from IID via the IID-owned and operated All-American Canal system which is ultimately supplied to Brawley’s WTP via the Mansfield Canal off the Central Main Canal. The capacity of the Mansfield Canal is 30 CFS (19 MGD). Raw water is treated at the City’s 15 MGD capacity WTP and pumped and distributed via its pump station located at the WTP.

IID’s supply to the City is significant and the City currently has no restrictions on the amount that can be supplied. Due to this, the City is not affected by normal or dry years as discussed above due to IID’s significant supply and the City’s existing operating methods with IID. Therefore, the limiting factor is the City’s WTP capacity that treats the raw water received from IID and delivers it to the City’s customers through its distribution system. The current supply provided by IID has been in-line with the demand required by the City’s customers as the City operates on a demand-supply basis where the IID supply is increased or decreased to maintain the City’s desired storage levels. Due to this, the City’s total supply capacity has not been reached and the City maintains the ability to provide increased supply in accordance with its daily treatment capacity. The difference between the max daily WTP capacity and the normal volume supplied daily is considered available storage and reserved augmentation uses for purposes of this UWMP



2.2.2.2 Infrastructure Considerations

This section serves to identify how existing infrastructure capabilities may pose potential constraints outside of natural disasters that may affect the City's ability to deliver supplies to meet customer water use needs in the current year and one dry year.

The City currently has no plans for anticipated capital projects or repairs that may constrain capabilities. Additional infrastructure capability considerations are consulted with IID. For example, operations take into account the schedule for IID in addition to any known outages. Infrastructure capabilities are constantly monitored by operations staff and communicated if adjustments in water supplies are required throughout the year. When there are unexpected infrastructure complications, operations, water resources, engineering and management meet regularly to monitor and manage water supplies decisions as needed.

2.2.2.3 Other Factors

Since the IID is the only supplier of water to the City, and there is no alternative source water, the City maintains an elaborate emergency response plan which includes considerations in the event of a natural disaster. The following are locally applicable factors that can influence or disrupt supplies, along with other unique local considerations that the City continually factors as part of their emergency preparedness which will be included as part of the Annual Assessment:

- Construction projects
- IID planned outages and maintenance of canals or aqueducts
- Agreement coordination delays can influence imported water deliveries
- Fires, earthquakes
- Electrical outages
- Water quality, locally or imported
- Equipment failures

Chapter 3 – Six Standard Water Shortage Levels

The City has developed six standard water shortage levels corresponding to progressive ranges of percent water shortage when compared to normal reliability conditions. These stages are in compliance with the 2018 state legislation (SB 606 and AB 1668), which now requires water shortage plans to be standardized and include six stages of water shortage severity. The shortage levels have been standardized by the DWR to provide a consistent regional and statewide approach to conveying the relative severity of water supply shortage conditions.

These six standard water shortage levels shown below correspond to progressively increasing estimated shortage ranging from 10 percent shortage to greater than 50 percent shortage of normal supply conditions.



Table 8-1: Water Shortage Contingency Plan Levels		
Shortage Level	Percent Shortage Range	Shortage Response Actions (Narrative description)
1	Up to 10%	Water Alert – Not Restricted. Voluntary up to 10% decrease in water use
2	Up to 20%	Water Warning – Moderately Restricted. Voluntary up to 20% decrease in water use.
3	Up to 30%	Water Conservation – Significantly Restricted. Mandatory up to 30% decrease in water use
4	Up to 40%	Water Reduction – Severely Restricted. Mandatory up to 40% decrease in water use.
5	Up to 50%	Water Emergency – Extremely Restricted. Mandatory up to 50% decrease in water use.
6	>50%	Water for Essential Use Only
Notes:		

As discussed throughout this WSCP, the City is unlikely to experience water shortages due to a limited water supply. As such, determination of the appropriate water shortage level will rely on IID's declaration and notice to the City for its voluntary implementation of these response actions to assist the region during times of shortage. These Shortage levels shall also apply to catastrophic interruption of water supplies of the City's distribution, including, but not limited to, a regional power outage, an earthquake, and other potential emergency events.

Chapter 4 – Shortage Response Actions

This section presents the City of Brawley's Shortage Response Actions as required by Water Code Section 10632 (a)(4). These include a broad range of customer and water use-specific demand reduction initiatives, system infrastructure and operations responses, and increasingly stringent water use prohibitions. The City has aligned these response actions to the six shortage levels identified above in Section 3. These water shortage stages will be used to help the Water Shortage Taskforce identify the most appropriate responses for the anticipated shortages.

The following shortage response actions will be taken by the City to assist and due its part to lessen the State's and IID's consumptive use during regional or anticipated shortage events or in the event of a natural disaster. As the City itself has been determined throughout this WSCP and 2020 UWMP that it will not directly face water shortage of its supply, nonetheless it will still implement these measures to ease the burden on IID and the Colorado River during water shortage events. Additionally, these measures will be implemented if a major service catastrophe limits the City by



the respective shortage amounts.

During declared or imminent shortages, or when the City faces the corresponding shortages due to natural emergency, the City Manager will activate a City water shortage response team. The team includes: water, fire, planning, health, emergency services, public affairs, parks and recreation, and the Mayor's Office. During a declared water shortage, the City will accept applications for new building permits but will not issue permits until the shortage declaration is rescinded. An appeal process is available and ends at the City Council. The overall response strategy the City uses during shortage periods follows the same logical extension of normal operations which balances conservation strategies with demand management measures. Priority water uses are designed into the City's Water Shortage Response Actions. As the City does not have the ability for additional supply augmentation from other sources, the City will rely on demand reduction, operational changes, and mandatory restrictions in concert with their Emergency Response Plan.

4.1 Demand Reduction

As the water purveyor, the City of Brawley must provide the minimum health and safety water needs of the community at all times. With that in mind, the City recognizes that water savings, during droughts or other water shortages, will need to be driven through an escalation in marketing, increased programming, and enhanced incentives in accordance with water shortage event levels.

The following measures will be implemented gradually in accordance with the water shortage levels described above. In this manner, the appropriate responses in accordance with severity can be implemented. Restrictions and prohibitions on end users for each stages of water shortages are summarized below. These demand reduction actions are in accordance with the 2020 UWMP.

Demand Reduction Actions				
Shortage Level	Demand Reduction Actions	How much is this going to reduce the shortage gap? Include units used (volume type or percentage)	Additional Explanation or Reference	Penalty, Charge, or Other Enforcement
1	Expand Public Information Campaign	N/A	Website and newspaper bulletins	No
1	Offer Water Use Surveys	N/A		No
1	Provide Rebates for Landscape Irrigation Efficiency	N/A		No
2	Expand Public Information Campaign	N/A	Website and newspaper bulletins	No
2	Improve Customer Billing	N/A		No
2	Provide Rebates on Plumbing Fixtures and Devices	N/A		No
2	Decrease Line Flushing	N/A		No



2	Landscape - Restrict or prohibit runoff from landscape irrigation	N/A		Yes
3	Expand Public Information Campaign	N/A	Website and newspaper bulletins	No
3	Increase Frequency of Meter Reading	N/A		No
3	Provide Rebates for Turf Replacement	N/A		No
3	Reduce System Water Loss	N/A		No
3	Increase Water Waste Patrols	N/A		No
3	Pools and Spas – Require covers for pools and spas	N/A		Yes
3	Landscape – Limit landscape irrigation to specific times	N/A		Yes
4	Expand Public Information Campaign	N/A	Website and newspaper bulletins	No
4	Increase Water Waste Patrols	N/A		Yes
4	Implement or Modify Drought Rate Structure or Surcharge	N/A		Yes
4	Water Features - Restrict water use for decorative water features, such as fountains	N/A		Yes
4	Pools – Allow filling of swimming pools only when an appropriate cover is in place	N/A		Yes
4	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	N/A		Yes
4	CII - Commercial kitchens requires to use pre-rinse spray valves	N/A		Yes
4	Landscape – Limit landscape irrigation to specific days	N/A		Yes
5	Expand Public Information Campaign	N/A	Website and newspaper bulletins	No
5	Moratorium on Net-Zero Demand Increase on New Connections	N/A		Yes
5	Other - Require automatic shut of hoses	N/A		Yes
5	Other - Prohibit use of potable water for construction and dust control	N/A		Yes
5	CII – Lodging establishment must offer opt out of linen service	N/A		Yes
5	Landscape – Prohibit certain types of landscape irrigation	N/A		Yes



6	Expand Public Information Campaign	N/A	Website and newspaper bulletins	No
6	Other - Prohibit use of potable water for washing hard surfaces	N/A		Yes
6	Other - Prohibit vehicle washing except at facilities using recycled or recirculating water	N/A		Yes
6	CII – Restaurants may only serve water upon request	N/A		Yes
6	Landscape - Prohibit all landscape irrigation	N/A		Yes

NOTES:

Figure 65 – Table 8-2 Retail: Demand Reduction Actions

4.1.1 Determining Water Shortage Reductions

As mentioned previously, the following measures will be carried out in accordance with shortage levels as declared by IID to assist reduce the burden on the region or in the event of a disaster disrupting the City's distribution.

Under normal water supply conditions, potable water production figures will be recorded daily. Totals are reported weekly to the Water Treatment Facility Supervisor. Totals are reported monthly to the Water Department Manager and incorporated into the water supply report.

During a Stage I, Stage II, or Stage III water shortage, daily production figures will be reported to the Supervisor. The Supervisor will compare the weekly production to the corresponding water shortage conservation target to verify that the implemented responses are taking affect. Weekly reports will be forwarded to the Water Department Manager and the Water Shortage Response Team who will also track and compile monthly reports. If reduction goals are not met, the response team will notify the City Council so that corrective action can be taken.

During a Stage IV, Stage V, and Stage VI water shortage, the procedure listed above will be followed, with the addition of a daily production report to the Manager. During emergency shortages, production figures will be reported to the Supervisor hourly and to the Manager and the Water Shortage Response Team daily. Daily reports will also be provided to the City Council along with coordination with IID Emergency Services, if needed.

4.2 Supply Augmentation

The IID is the only supplier of water to the City, and there is no alternative source water. In the event of a supply disruption, the City does not have a method for augmenting an additional supply source and will need to rely on demand reductions to balance the reduced supply. The water quality of the agricultural drains, New River and Alamo River are high in total dissolved solids and other



contaminants and are as such unusable as a potable or irrigation water source. No groundwater or recycled water are currently used nor is it planned to be used in the future.

However, in terms of normal supply volumes, IID's supply to the City is significant and the City currently has no restrictions on the amount that can be supplied. Therefore, the limiting factor is the City's WTP capacity that treats the raw water received from IID and delivers it to the City's customers through its distribution system. The current supply provided by IID has been in-line with the demand required by the City's customers as the City operates on a demand-supply basis where the IID supply is increased or decreased to maintain the City's desired storage levels. Due to this, the City's total supply capacity has not been reached and the City maintains the ability to provide increased supply in accordance with its daily treatment capacity. The difference between the max daily WTP capacity and the normal volume supplied daily is considered available storage and reserved augmentation uses for purposes of this UWMP.

4.3 Operational Changes

Operational changes will be dependent on the level and type of catastrophic event. The City will implement any operational changes as needed to meet supply needs at a given period of time based on the type of disruption. A wide range of scenarios and responses are detailed in the City's emergency response plan discussed in Section 4.5.

However, outside of emergency disasters, the additional volume projected to be required is well within the normal operation of the treatment plant's capacity. No operational changes are foreseen to be required. However, a number of operational changes may be utilized at various shortage levels if needed.

4.4 Additional Mandatory Restrictions

Aside from the demand response actions mentioned above, the City will consider additional mandatory restrictions in accordance with real time needs. These additional mandatory restrictions will be flexibly employed at the City's discretion for each water shortage level on an as-needed basis and in accordance with priority water uses to maintain basic needs.

Upon a catastrophic water supply reduction, mandatory provisions to reduce individual urban consumer water use will be placed into effect. If the water supplies are reduced by 50 percent for a single year, the City will make an allotment on a per capita basis per connection and customer type.

Additionally, the City has adopted a resolution for Restrictions during a Declared Water-Shortage Emergency. The following restrictions shall be effective during a declared Water-Shortage Emergency:

- There shall be no water used for irrigation or landscaping purposes.
- There shall be no private or commercial car washing.
- No restaurant, hotel, cafe, cafeteria or other public place where food is sold, served or offered for sale, shall serve drinking water to any customer unless requested.



- Use of potable water for construction, compaction, dust control, street or parking lot sweeping, building wash down shall be prohibited.
- Use of potable water for sewer system maintenance or fire protection training shall be prohibited without prior approval by the Mayor.
- Use of potable water for any purpose more than the amount allocated shall be prohibited.
- Other restrictions and prohibitions may become necessary during a declared Water Shortage Emergency, to safeguard the adequacy of the water supply for domestic, sanitation, fire protection, and environmental requirements.

These demand management and conservation measures will be enacted during regional shortage events or times of drought to facilitate the State's and IID's water burden. However, no shortage or difficulty to supply normal demands is anticipated

4.5 Emergency Response Plan

The City is currently working on finalizing its Emergency Response Plan (ERP) that will be summarized herein for ease of the reader when available. The ERP describes strategies, resources, plans, and procedures utilities can use to prepare for and respond to an incident, natural or man-made, that threatens life, property, or the environment. The City will ensure steps are identified to ensure restoration of water service for essential use if a catastrophic supply interruption--a power outage, earthquake, or other non-dry period related emergency— were to temporarily interrupt water supply. This plan is not publicly available but identifies actions to be taken if there is a catastrophic supply interruption. City staff responsible for water transportation, treatment, and distribution have established the ERP to guide assessment, prioritization, and repair of The City facilities potentially damaged during such a disaster.

In the event of extended regional power outages, the City will use standby diesel generators that will power critical functions at the WTP. The fuel would be brought in every two days. In this way the residents of Brawley would not lose supply of potable water.

Furthermore, to the extent that supply interruptions contribute toward the City's system shortage, the response actions associated with the determined water shortage level from this WSCP will apply.

4.1.1 IID Emergency Response

Aside from the City's own emergency responses, coordination will also be done with IID in the event of supply disruption. During or immediately after any water supply emergency, IID staff implements the Emergency Preparedness Plan. The Emergency Preparedness Plan includes required actions and procedures by IID staff to respond to events that impair water operation of canals, laterals, drains, dams, and other facilities. These responses are not normal operation and maintenance activities. Generally, any occurrence that requires an immediate response is classified as an extreme event or emergency.

The Emergency Preparedness Plan defines the role each responsible employee will play during an emergency. Water Department staff conducts emergency and/or disaster response planning in the Water Control Center. Coordination of staffs with other departments will take place in the General



Manager's conference room. All- American Canal River Division staff planning will be centered in the Imperial Dam Control House. Other staffs meet and coordinate actions at designated areas.

Established actions and procedures exist for extreme events and emergencies that endanger operation of the water system. Possible emergencies/extreme events that endanger operation of the water system could include earthquakes, storms, rain, run- off from desert washes, flooding, facility or structure damage, power outages, fire, vehicles in canals, equipment theft/vandalism, or other disaster. The Imperial Irrigation District's water delivery and drainage systems do not totally shut down during an emergency.

IID has conducted Emergency Preparedness Exercises in the past. Emergency preparedness exercises will be updated with the development of new emergency preparedness exercises. Water Department staffs trained and participated with the U. S. Department of the Interior Bureau of Reclamation's Tabletop Exercise for emergency preparedness.

The cities in the Imperial Unit have a ten-day storage holding capacity requirement. The Imperial County Office of Emergency Services requires this storage holding capacity for cities (Imperial Irrigation District, 1998, p.22).

IID is considered a special district in the eyes of the state and the federal government. A special district must meet the same requirements as a local city pertaining to emergency preparedness and emergency management. As such, IID is required to go through the appropriate channels regarding mutual aid.

In the event of a natural and or man-made disaster, IID would open its Emergency Operations Center located at headquarters in Imperial, California. IID would then notify the Operational Area, which is the Imperial County Office of Emergency Services located in Heber at the Imperial County Fire Department Station # 2. If the event called for mutual aid IID, the EOC would request assistance from the OA. If the OA was unable to fulfill this request it would go to the next highest level, which would be the Regional Emergency Operations Center, located in Los Alamitos. In the event the REOC was unable to fill the request it would go to the State Operations Center located in Sacramento. The SOC would fill the request or ask for federal assistance from the Federal Emergency Management Agency a subsection of the Federal Department of Homeland Security.

4.6 Seismic Risk Assessment and Mitigation Plan

The City is also working on finalizing its Risk and Resilience Assessment. This assessment required by the America's Water Infrastructure Act of 2018 Section 2013(b), will include the City's Seismic Risk Evaluation and Mitigation Plan which will be summarized here when available.

4.7 Shortage Response Action Effectiveness

The City of Brawley currently has no metric to track the effective of the developed shortage responses. Previous implementation of these measures was not recorded or tracked, but general percentages have been reasonably assumed for purposes of this UWMP. Moving forward these metrics and their effectiveness will be tracked and updated as the information becomes available.



Chapter 5 – Communication Protocols

The City is working to finalize its communication protocol to be implemented during times of water shortage that are detailed in the City's Emergency Response plan. These established protocols will facilitate staff decisions making and expedite the dissemination of information to the public. These communication protocols will be updated and provided once they have been finalized by the City.

The goals of the communication protocols are to:

- Increase the speed that response actions can be rolled out by pre-planning.
- Reduce workload by providing a blueprint for deployment of strategic actions as water shortage stages are declared.
- Provide recommendations on the optimal measures, activity levels, incentives, and services that will drive water savings according to need.
- Act as a starting point for creating a final plan of action during a water shortage event. The finalized plan will include adjustments from customer input, new technologies, grants, or other circumstances.

However, supply forecasting communication is anticipated to remain the same. As the City relies on IID delivery, it relies on IID to notify the City of anticipated water shortages. Should operating conditions on the Colorado River indicate IID may be impacted by reductions in water deliveries; the IID will notify all of its water users by mail and will conduct an educational outreach program in conjunction with the local media and municipal water systems. The notice will request all water suppliers, and in particular: residential, industrial, and commercial water users, to conserve water on a voluntary basis. Urban water suppliers, such as the City, will be responsible for notifying their customers and implementing their own voluntary water conservation measures and programs.

5.1 Key Audience

Communicating to various stakeholders is essential during normal supply periods and becomes increasingly more critical during water shortages and times of emergency. The following are key public audiences which will be the focus for the City's communication targets. The level and frequency of information provided will vary depending on the status and criticality of supply conditions. Research, outreach, and feedback are central to an effective communications plan. City staff will continue to coordinate closely with the public, stakeholders and governing agencies on an ongoing basis to ensure appropriate messaging is culturally competent and provided in multiple languages to reflect the region's demographics.

Residents

- Single family homeowners
- Multi-family tenants
- Multi-family property owners

Businesses

- Commercial/Industrial/Institutional
- Homeowner Associations



- Building Industry Association and Developers
- Media Networks
- Brawley Chamber of Commerce
- Vendors/Contractors/Consultants doing business with The City

Public/Community Agencies

- Educational Institutions
- Elected Officials and Community Leaders
- Community-based Organizations (CBOs): Non-profits, service clubs and fraternal organizations
- State and Federal Representatives and Staff
- City of Brawley
- Imperial County
- School districts/educators/students
- Community Councils
- Environmental Groups

Media

- Local and regional media outlets

5.2 Crisis Communications

In the event of a catastrophic shortage due to an infrastructure failure and/or natural disaster, The City will enact its crisis communications as part of its Emergency Response Plan. Refer to Section 4.5 for further discussion on City's Emergency Response Plan. The Emergency Response Plan was developed in accordance with local, regional, state and federal emergency response guidelines to ensure a coordinated effort and effective response.

Chapter 6 – Compliance and Enforcement

Enforcement of compliance will be employed to ensure measures are adhered to. Any customer violating the regulations and restrictions on water use set forth in the City's existing "No Waste" Ordinance shall receive a written warning for the first such violation. Upon a second violation, the customer shall receive a written warning and the City may cause a flow-restrictor to be installed in the service. If a flow-restrictor is placed, the violator shall pay the cost of the installation and removal. Any willful violation occurring after the issuance of the second written warning shall constitute a misdemeanor and may be referred to the Office of the City Attorney for prosecution. If water service is disconnected, it shall be restored only upon payment of the turn-on charge fixed by the City Council.

Compliance and enforcement will be achieved with the following methods:

- Letters of non-compliance will be distributed with monthly bills to indicate water use



above a designated level.

- Monthly efficiency goals will be communicated on bills (e.g., 55 gpd x 4 people + Landscape, etc.).
- Water shortage service area inspections (patrols).
- Sending a general letter stating the rules for drought restrictions, with notification that patrols will drive through your area on a particular week. This way compliance is encouraged prioritizing education and engagement.
- The City does not intend to utilize drought rates as a first response. However, the City may elect to implement rate increases after non-compliance.

The potential rate increases starting with a 20% rate increase at Stage II; 40% at Stage III; 60% at Stage IV; 80% at Stage V; and a 100% increase at Stage VI may be implemented after multiple defiance of non-compliance.

Chapter 7 – Legal Authorities

The City is well within its right to enforce and uphold demand reductions and restrictions as needed and as set forth in its WSCP. California Constitution article X, section 2 and California Water Code section 100 provide that water must be put to beneficial use, the waste or unreasonable use or unreasonable method of use of water shall be prevented, and the conservation of water is to be exercised with a view to the reasonable and beneficial use thereof in the interest of the people and the public welfare. In addition, Water Code Section 375 provides the City with the statutory authority to adopt and enforce water conservation restrictions, and Water Code Section 350 et seq. authorizes the City to declare a water shortage emergency and impose water conservation measures when it determines that the City may not be able to satisfy ordinary demands without depleting supplies to an insufficient level.

However, excepting in the event of a wildfire or a breakage or failure of a dam, pump, pipeline, or conduit causing an immediate emergency, the declaration shall be made only after a public hearing at which consumers of the water supply shall have an opportunity to be heard to protest against the declaration and to present their respective needs to said governing board per CWC Section 351.

Chapter 8 – Financial Consequences of WSCP

Implementing the WSCP will produce financial consequences to the City including potential reductions in revenue and increased expenses associated with implementation of shortage response actions. However, the City currently has no metric to project the financial consequences of implementing the WSCP's demand reductions and outreach programs. As discussed, the City was not affected nor were there any changes to the City's water supply and demand. Additionally, previous implementation of similar measures was not recorded or tracked. Moving forward these



costs and financial consequences will be tracked and updated as the information becomes available

Chapter 9 – Monitoring and Reporting

The City will continue to monitor and report water supply usage to track trends and additional water conservation goals. Demand forecasting will continue to be provided to IID in 5-year increments to allow IID to more accurately prepare their supply availability forecasts.

As discussed above, should operating conditions on the Colorado River indicate IID may be impacted by reductions in water deliveries; the IID will notify all of its water users by mail and will conduct an educational outreach program in conjunction with the local media and municipal water systems. The notice will request all water suppliers, and in particular residential, industrial, and commercial water users, to conserve water on a voluntary basis. Urban water suppliers, such as the City, will be responsible for notifying their customers and implementing their own voluntary water conservation measures and programs.

Chapter 10 – WSCP Refinement Procedures

The WSCP will serve as the City's basis for protocols and training programs for the City moving forward. WSCP refinement procedures are used to ensure shortage risk actions are appropriate and effective, and that this WSCP has a basis to be refined and updated over the years. As such, the WSCP is anticipated to be continually refined as more information and more efficient measures become known.

The City plans to refine the WSCP at least every five years in conjunction with the UWMP updates, unless a shorter time frame is deemed appropriate by The City. The amendment process will undergo the same procedures as required by the CWC including notification, public hearing, adoption, and submittal to readopt the amended plan as done with the UWMP.

Evaluation tracking will be implemented with each future WSCP to evaluate the effectiveness of the water shortage response actions used. The evaluation will identify the City's shortage responses and compare the expected percent demand reduction against actual reductions; by this means, the shortage response actions in the WSCP will be revised using the evaluation generated evidence. The success of customer outreach and communications will also be assessed to inform the next WSCP revision.



Chapter 11 – Special Water Feature Distinction

As part of the WSCP, the City has analyzed and defined water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas, as defined in subdivision (a) of Section 115921 of the Health and Safety Code. Non-pool or non-spa water features may use or be able to use recycled water, whereas pools and spas must use potable water for health and safety considerations. However, as the City does not use or provide any recycled water, these special water feature distinctions will not apply during water shortage events.

The only Special Water Features of consequence include firefighting water supplies and other emergency supplies. These special water features shall be the only sources not impeded during shortage conservation efforts.

Chapter 12 – Plan Adoption, Submittal and Availability

This WSCP will follow the same steps and procedure as the 2020 UWMP for submittal, review, and adoption. Refer to Section 10 of the 2020 UWMP. The following is a summary provided herein for ease of the reader.

1. Draft Preparation
2. Management Review and Revise
3. Committee Review, Revise, and Approval
4. Board Adoption
5. Submit to DWR
6. Implement
7. Amend WSCP Outside UWMP Cycle, if needed.

Prior to adopting any WSCP, the City will hold a public hearing meeting to identify and discuss public comments on the plan. The City will provide a notice in the newspaper 60 days prior to its public hearing date to provide the public with sufficient notice for review. Following the public hearing will be the adoption hearing where the City will officially adopt the plan for implementation. The City will then submit the approved and adopted WSCP to DWR within 30 days of its adoption and by July 1st, 2021. Amending an adopted WSCP will adhere to the same procedures discussed above with submittal to the DWR being within 30 days of the new adoption hearing.